

ABSTRACT OF THE DISCLOSURE

As the output of laser oscillators become higher, it becomes necessary to develop a longer linear shape beam for a process of laser annealing of a semiconductor film. However, if the length of the linear shape beam is from 300 to 1000 mm, or greater, then the optical path length of an optical system for forming the linear shape beam becomes very long, thereby increasing its footprint size. The present invention shortens the optical path length. In order to make the optical path length of the optical system as short as possible, and to increase only the length of the linear shape beam, curvature may be given to the semiconductor film in the longitudinal direction of the linear shape beam. For example, if the size of the linear shape beam is taken as 1 m x 0.4 mm, then it is necessary for the optical path length of the optical system to be on the order of 10 m. If, however, the semiconductor film is given curvature with a radius of curvature of 40,000 mm, then the optical path length of the optical system can be halved to approximately 5 m, and a linear shape beam having an extremely uniform energy distribution can be obtained.